Sealite®
www.sealite.com

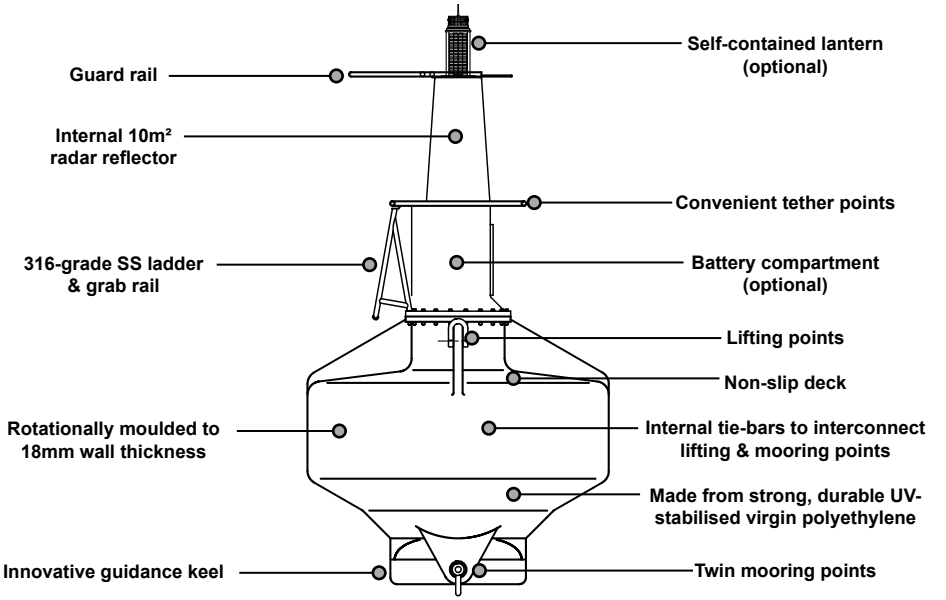
Nautilus-2200

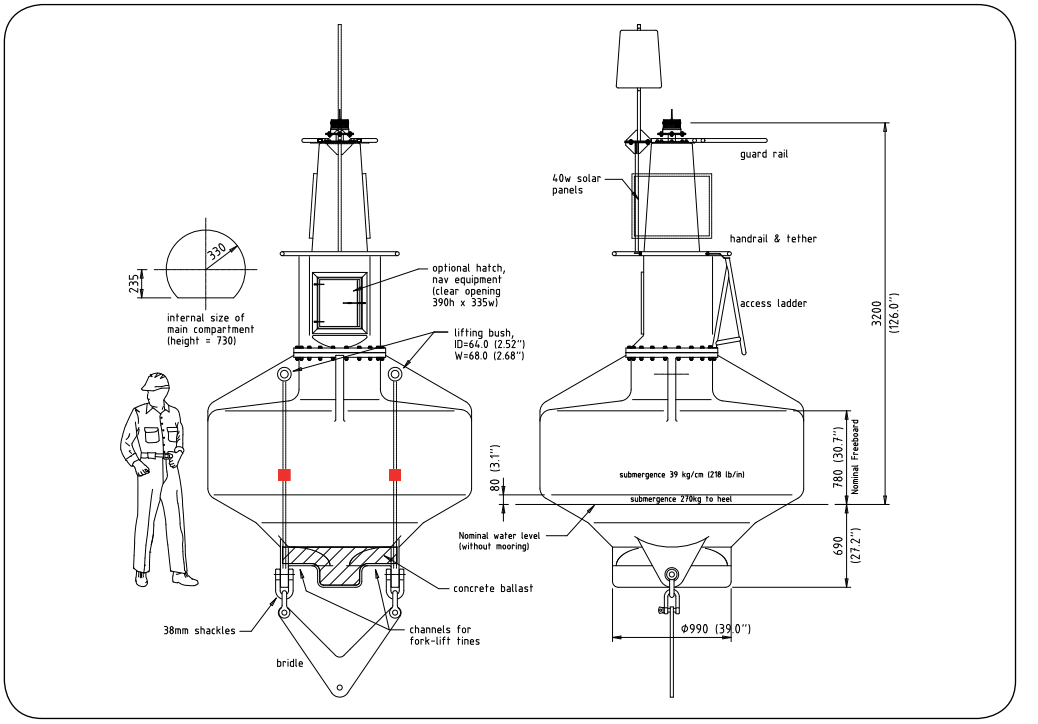
Ocean Buoy

Installation & Service Manual

Version 1.3

Product Features & Technical Specifications


Self-contained lantern (optional)
Guard rail
Internal 10m² radar reflector
Convenient tether points
316-grade SS ladder & grab rail
Battery compartment (optional)
Lifting points
Non-slip deck
Rotationally moulded to 18mm wall thickness
Internal tie-bars to interconnect lifting & mooring points
Made from strong, durable UV-stabilised virgin polyethylene
Innovative guidance keel
Twin mooring points



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Version No.	Description	Date	Approved
1.0	Manual Launch	July 2009	K. Paton
1.1	Individual Manual	Nov 2009	A. Dixon
1.2	Logo and Warranty Update	July 2010	K. Paton
1.3	Update: Quality Logo	May 2012	J. Dore

Introduction

Congratulations! By choosing to purchase a Sealite Buoy, you have become the owner of one of the most advanced rotationally-moulded polyethylene marine buoys in the world.

Sealite Pty Ltd has been manufacturing buoys for over 25 years, and particular care has been taken to ensure your buoy gives years of service.

As a commitment to producing the highest quality products for our customers, Sealite has been independently certified as complying with the requirements of ISO9001:2008 quality management system.

By taking a few moments to browse through this booklet, you will become familiar with the versatility of your buoy, and be able to maximise its operating function.

Sealite Buoy Division

Sealite marine buoys are manufactured on-site from rotationally-moulded UV-stabilised polyethylene, and are designed to offer a low-maintenance, high visibility solution to marine navigation.

The Sealite buoy division provides turn-key production of navigation buoys. From tooling development, raw materials selection, and production, to final testing and inspection, Sealite guarantees superior quality and fast turn-around times.

Sealite's buoy products are available in a wide range of configurations and sizes, and can be economically shipped worldwide.

Why Choose Polyethylene Buoys?

- No painting
- Inhibits growth
- Increased interval between servicing
- Routine maintenance on location
- Easily repaired in the unlikely event of damage
- Lightweight for ease of deployment and maintenance
- Environmentally friendly – no use of toxic antifouling paint

1. Mooring Requirements & Regulations

Please contact your local authority for any specific requirements regarding the deployment of buoys.

IALA also has guidelines and recommendations that should be followed.

All information given in this manual is advisory only. Please consult with your local authority before deploying your buoy products.

Local conditions that need to be considered include:-

- Water depth
- Maximum currents
- Maximum wind speeds
- Sinker size and weight

Nautilus-2200 Ocean Buoy

The Nautilus-2200 is a robust, rotationally-moulded polyethylene ocean buoy designed for offshore port and coastal applications.

SPECIFICATIONS •

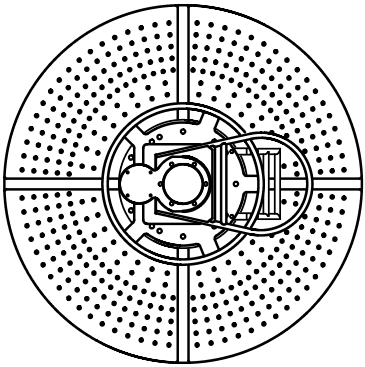
General Characteristics	
Available Colours	Red, Green, White, Yellow as per IALA Recommendations
Focal Plane Height (mm/inches)	3200 / 126
Total Float Volume (ltrs/US gallon)	4370 / 1154
Nominal Freeboard (mm/inches)	780 / 30 3/4
Nominal Draft (mm/inches)	690 / 27 1/8
Reserve Buoyancy (kgs/lbs)	1050 / 2315
Maximum Mooring Load (kgs/lbs)	1050 / 2315
Draft, Maximum (mm/inches)	960 / 37 3/4
Freeboard, Minimum (mm/inches)	510 / 20 1/8
Safe Working Load, 1pt (kg/lbs)	1950 / 4300
Safe Working Load, 2pt (kg/lbs)	5200 / 11460
Submergence (kg/cm, lb/inches)	39 / 218
Visual Area (m^2/ft^2)	3 / 32.3
Physical Characteristics	
Material	Rotationally-moulded UV-stabilized virgin polyethylene, internal 316-grade stainless steel bracing, 316-grade stainless steel grab rail and ladder
Wall Thickness (mm/inches)	18 / 3/4 (float section)
Ballast (kg/lbs)	350 / 772 internal concrete
Filling	Closed-cell polyurethane foam (float section)
Height (mm/inches)	4120 / 162 1/4
Width (mm/inches)	2200 / 86 2/3
Mass (kg/lbs)	830 / 1830
Radar Reflector	Echomax
Product Life Expectancy	>20 years
Certifications	
Quality Assurance	ISO9001:2008
Intellectual Property	
Trademarks	SEALITE® is a registered trademark of Sealite Pty Ltd
Warranty *	5 years
Lantern Options	Sealite SLC310, SLC420, Apollo-155 or SL125 series
Options Available	• Mould-in graphics • Sealite IALA recommended top marks • Day marks • Rotationally-moulded side-panelling • Monitoring Systems (AIS, GSM)

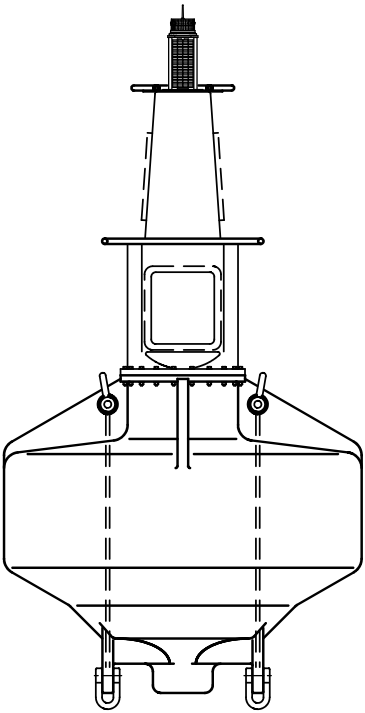
CE

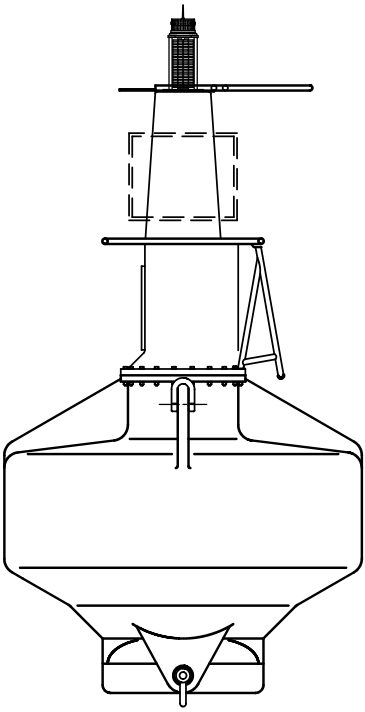
• Specifications subject to change or variation without notice
* Subject to standard terms and conditions

Nautilus-2200 Product Components

No	Description	Qty
1	Nautilus Float Section	1
2	Nautilus Tower	1
3	Ladder	1
4	G316 S/S Bolt. M10x100mm Long	16
5	G316 S/S Flat Washer	32
6	G316 S/S Spring or Locking Washer	16
7	G316 S/S Plain Nut	16
8	Handrail	1
9	Guardrail	1
10	Day Mark Mounting Plate (Optional)	
11	Nautilus Lug Bushes	4
12	Galvanised Grade M Shackle Ø38 with Ø44 pin, inside width 70mm x 137mm	4
G316 S/S = Grade 316 Stainless Steel		







Assembly Instructions

Check Components

- Unload all components from crate or container.
- Check all components are complete and correct. Use assembly diagram on following page for full list of components.
- Position the Nautilus Float Section (1) on flat level ground.

Prepare Tower Section

- *Optional:* Position the Lantern on the Tower section. For details on Lantern see Lantern Installation Manual.

  Note: Check for correct Lantern operation before fitting to the tower section.
- *Optional:* Position the Day Mark to the Mounting Plate (10) and secure using 4 x M10 Socket Head Cap Screws, washers and Nuts.

Connect Tower Section to Float Section

- Position the Nautilus Tower (2) on top of the Float Section (1).
  - Secure the Tower to the Float Section.
    - If Tower Section is fitted with Solar Panels, it will require 16 x M10 Stainless Steel Bolts, Nuts and Washers.
    - If Tower Section is not fitted with Solar Panels then 18 x M10 Stainless Steel Bolts, Nuts and Washers are required.
  - Place a flat washer onto the bolt,
  - Insert bolt into hole through Tower and Float Section
  - Secure a second Flat Washer, a Spring Washer and a Nut on to the Bolt.
  - Tighten the Nut
- Fit 2 x Ø38mm Shackles to the Lifting Eyes on the Float Section.
- Lift Buoy up to access the Lug Bushes at the base of the Buoy.
- Cut off the cable tie and fit 2 x Ø38mm Shackles. Secure tightly.
- The buoy is now ready for the Mooring Assembly to be fitted.

Mooring Assembly Instructions

Check Components

- Unpack all Mooring and check all components are complete and correct.

Prepare & Attach Chain

- Fit and secure 1 x Ø38mm Shackle and 1 x Ø38mm Swivel Eye to the base of the bridle.

  Note: All Shackles must be positively locked. For example use 3mm Stainless Steel wire to lock the pin eye, or use a shackle pin with nut and split pin.

- Fit and secure a length of chain to the Swivel Eye using 1 x Ø38mm Shackle.

  Note: Please use the guides below to determine the correct chain size and length.

- Fit and secure the Bridle to the Buoy using 2 x Ø32mm Shackles. Place Ø36mm washers to either side of the bridle plate to pack the Shackle for a neat fit.

Attach Mooring Block

- Fit and secure the Chain to the Mooring Block.

- The Buoy is now ready for deployment.

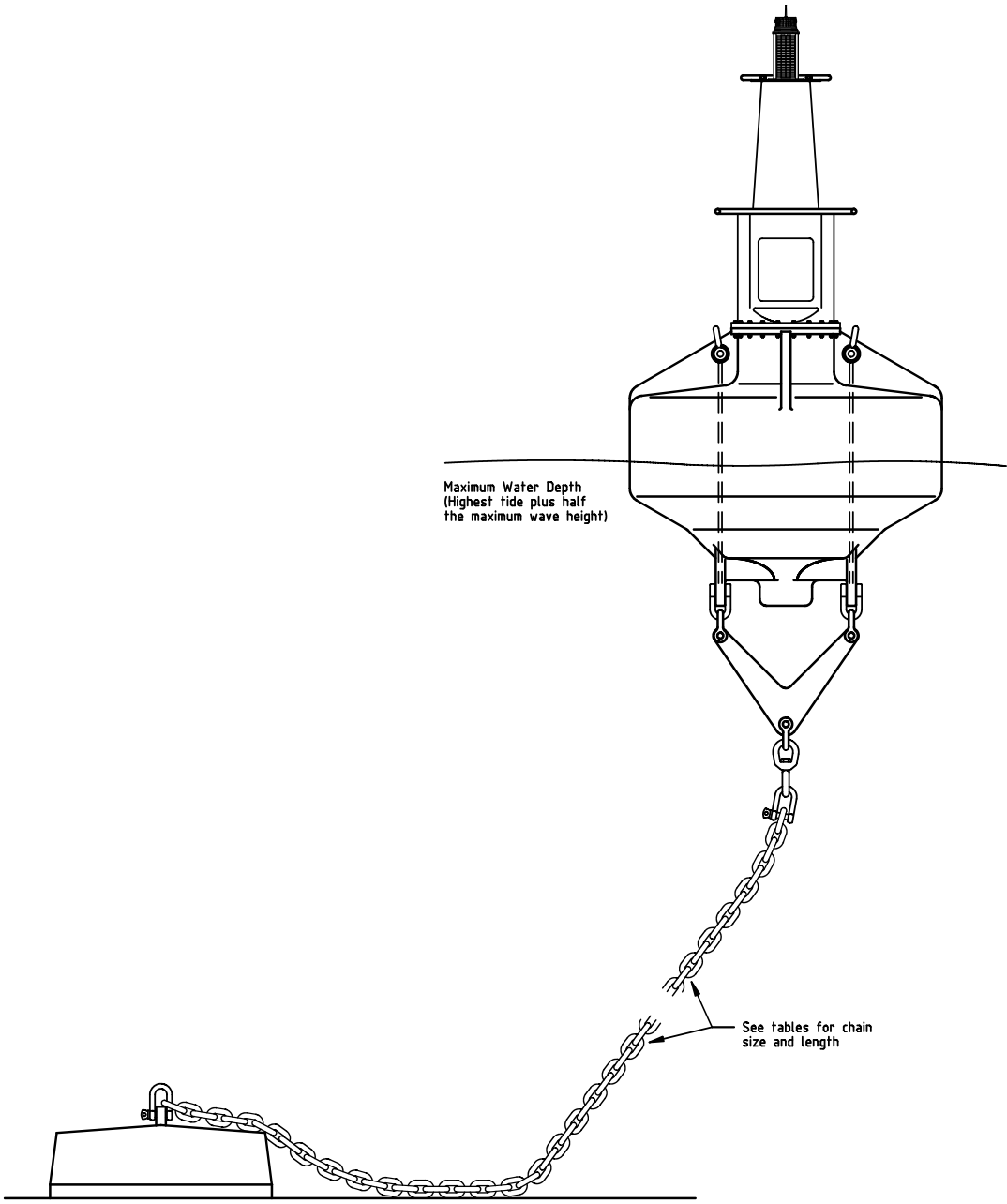
Chain Size Guide

Water Depth		Recommended Chain Size (from swivel to mooring block)
Metres	Feet	
6 to 14	20 to 46	44mm
14 to 22	46 to 72	38mm
22 to 32	72 to 105	32mm
32 to 50	105 to 164	25mm
50 to 75	164 to 246	22mm

Chain Length Guide

	Recommended Length of Chain	Maximum Water Depth
Best Practice (Up to 6kts current)	3 x Water Depth	50m
For Reduced Water Circle (Current 2kts to 4kts)	2.5 x Water Depth	75m
For Minimum Water Circle (use only where current <2kts)	Not less thank 2 x Water Depth	75m

Nautilus-2200 Mooring Diagram



Marine Buoy Maintenance

Sealite Marine Buoys are designed to require very little maintenance. We recommend the buoy be inspected annually. Inspection may need to increase depending on the local conditions and the position of the buoy.

IALA Recommendation AISM E-107 suggests moorings are inspected annually.

Marine Buoy – Annual Maintenance

- Visually inspect buoy for damage
- Inspect the top mark for any damage. Repair any broken or damaged section.
- Clean buoy of animal debris

Mooring – Annual Maintenance

- Check and clear the tail and ride chains from shells and algae.
- Check for wear on any shackle axis and check the tapered pins. Any worn shackles must be replaced.
- Check the free movement of each swivel around its head. If any swivel head sticks it must be replaced.
- Check every link of the thrash length of the chain. Check the diameter of the nips and sides and also inspect the welds on every link.
- If depth allows, a worn riding chain may be reversed.
- Change a chain when any link shows excessive wear.
- Chain must be replaced if any link wears to less than 3/5 of the original diameter.

Mooring – Biannual Maintenance

- Inspect the ground chain and sinker.

Lanterns – Maintenance

- Please refer to the Installation Manual for the specific Marine Lantern fitted to the Buoy.

Sealite Buoy Warranty V2.1

Activating the Warranty

Upon purchase, the Sealite Pty Ltd warranty must be activated for recognition of future claims. To do this you have two (2) options:

1. **Postal Registration** - please complete the Sealite Warranty Registration Card and return to Sealite within 30 days of your purchase.
2. **Online Registration** - please complete the Online Registration Form at; www.sealite.com

Sealite Pty Ltd will repair or replace your buoy product in the event of failure for a period of up to twelve months (small buoy products less than 1500mm diameter) & a period of up to five years (large buoy products 1500mm diameter & larger) from the date of purchase.

The unit must be returned to Sealite freight prepaid.

Warranty Terms

1. Sealite Pty Ltd warrants that any rotationally-moulded buoy products ("Buoy Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of twelve (12) months for small buoy products up to under 1500mm diameter, and for a period of five (5) years for large buoy products including and over 1500mm in diameter from the date of purchase by the original purchaser.
2. Sealite Pty Ltd will repair or replace, at Sealite's sole discretion, any Buoy Products found to be defective in material and workmanship in the relevant warranty period so long as the Warranty Conditions (set out below) are satisfied.

Warranty Conditions

This Warranty is subject to the following conditions and limitations;

1. The warranty is applicable to buoys manufactured from 1/1/2009.
2. The warranty is void and inapplicable if:
   a. the product has been used or handled other than in accordance with the instructions in the owner's manual and any other information or instructions provided to the customer by Sealite;
   b. the product has been deliberately abused, or misused, damaged by accident or neglect or in being transported; or
   c. the defect is due to the product being repaired or tampered with by anyone other than Sealite or authorised Sealite repair personnel.
3. The customer must give Sealite Pty Ltd notice of any defect with the product within 30 days of the customer becoming aware of the defect.
4. No modifications to the original specifications determined by Sealite shall be made without written approval of Sealite Pty Ltd.
5. The product must be packed and returned to Sealite Pty Ltd by the customer at his or her sole expense. Sealite Pty Ltd will pay return freight of its choice. A returned product must be accompanied by a written description of the defect and a photocopy of the original purchase receipt. This receipt must clearly list model and serial number, the date of purchase, the name and address of the purchaser and authorised dealer and the price paid by the purchaser. On receipt of the product, Sealite Pty Ltd will assess the product and advise the customer as to whether the claimed defect is covered by this warranty.
6. Sealite Pty Ltd reserves the right to modify the design of any product without obligation to purchasers of previously manufactured products and to change the prices or specifications of any product without notice or obligation to any person.

Limitation of Liability

To the extent permitted by section 68A of the Trade Practices Act 1974 (Cth), the liability of Sealite Pty Ltd under this Warranty will be, at the option of Sealite Pty Ltd, limited to either the replacement or repair of any defective product covered by this Warranty. Sealite will not be liable to Buyer for consequential damages resulting from any defect or deficiencies.

Limited to Original Purchaser

This Warranty is for the sole benefit of the original purchaser of the covered product and shall not extend to any subsequent purchaser of the product.

Miscellaneous

Apart from the specific warranties provided under this warranty, all other express or implied warranties relating to the above product is hereby excluded to the fullest extent allowable under law. The warranty does not extend to any lost profits, loss of good will or any indirect, incidental or consequential costs or damages or losses incurred by the purchaser as a result of any defect with the covered product.

Warrantor

Sealite Pty Ltd has authorised distribution in many countries of the world. In each country, the authorised importing distributor has accepted the responsibility for warranty of products sold by distributor. Warranty service should normally be obtained from the importing distributor from whom you purchased your product. In the event of service required beyond the capability of the importer, Sealite Pty Ltd will fulfil the conditions of the warranty. Such product must be returned at the owner's expense to the Sealite Pty Ltd factory, together with a photocopy of the bill of sale for that product, a detailed description of the problem, and any information necessary for return shipment.

Information in this manual is subject to change without notice and does not represent a commitment on the part of the vendor.
Sealite products are subject to certain Australian and worldwide patent applications.

Other Sealite Products Available

Marine Lanterns
(1-12nm+)

Monitoring
& Control Systems

Bridge & Barge Lights

Marine Buoys
(up to 3mt in diameter)

Area Lighting

Mooring Systems
& Accessories

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